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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/970,444

10/03/2001

Eiji Hamamoto

04558/056001

9646

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7590

03/14/2006

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EXAMINER

CHANG, AUDREY Y

ART UNIT

PAPER NUMBER

2872

DATE MAILED: 03/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/970,444

Applicant(s)

HAMAMOTO ET AL.

Examiner

Audrey Y. Chang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 13-19 and 24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-19 and 24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Remark*

- This Office Action is in response to applicant's response filed on December 29, 2005, which has been entered into the file.
- Applicant filed no amendment to the claims with the response.
- Claims 13-19 and 24 remain pending in this application.
- The double patenting rejection of claim 24 set forth in the previous Office Action is withdrawn in response to applicant's response.

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 13-19 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over the patent issued to Sakamaki et al (PN. 6,746,633) in view of the patent issued to Binda (PN. 2,445,555).**

**Sakamaki et al** teaches a *method* for producing a *polarizing plate* that is comprising the step of *dyeing a polyvinyl alcohol (PVA) film* using a *dichroic iodine*, (please see column 9, line 62 and column 10, lines 12-14), and the *step of stretching* the PVA film, wherein in the step of stretching the PVA film, the PVA film is *immersed* in a bath containing *cross-linking agent*, (please see column 10, lines 39-51). **Sakamaki et al** teaches that the stretching ratio is between 1.1 to 20, (please see column 3, lines 30-35).

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Sakamaki et al teaches that the produced polarizing plate has single *transmittance* of 43.3% and *degree of polarization* of 99.98% at 550 nm, (please see column 12, lines 20-25). Sakamaki et al teaches that the degree of polarization is determined in terms of the *parallel transmittance* (H0) and the *crossed transmittance* (H1), (please see column 16, lines 26-38). By simple calculation, one can deduce that the ratio of (parallel transmittance) to (crossed transmittance) is about 4999 at 550 nm which is greater than 3000, (with respect to claim 16). And since the single transmittance is always greater than the parallel transmittance, this means the ratio (single transmittance) to (crossed transmittance) must be greater than 4999 at 550 nm and therefore also greater than 3000, (with respect to claims 13 and 24). This means that the produced polarizing plate of Sakamaki et al has the transmittance ratios that satisfy the ratios recited in the claims.

This reference has met all the limitations of the claims. Sakamaki et al teaches that the stretching step of the PVA film is performed by immersing the PVA film in a bath with cross-linking agent. This reference however does not teach explicitly that the PVA film is stretched in two cross-linking baths with the second stretching is performed at a stretching ratio greater than the first stretching. **Binda** in the same field of endeavor teaches a method for producing polarizing plate wherein the PVA film is stretched in a cross-linking bath of a cross-linking agent and after the first stretching the PVA film is then *re-stretched*. Binda teaches that the step of stretching and the step of re-stretching the PVA are taking place in the cross-linking agent baths, (the re-stretching step is considered in the second bath). This re-stretching of PVA film in the cross-link bath makes the PVA film have improved material quality as well as improved transmittance, (please see column 2, lines 40-55, column 3, lines 1-24). With regard to claim 14, Binda teaches that the cross-linking agent is *boric acid*, (please see column 2, lines 20-24). It would then have been obvious to one skilled in the art to apply the teachings of **Binda** to provide additional *re-stretching step* of the PVA film for the benefits of materially improving the polarizing plate as well as optimizing the transmittance and therefore the polarization degree of the polarizing plate. Binda teaches that the

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strength of the re-stretching step is nearly as strong as the first or originally stretching. Binda also teaches that after the first stretching, the film would shrink. Although this reference does not teach explicitly that the second stretching has a stretch ratio greater than the first stretch ratio, such modification would have been obvious to one skilled in the art to adjust the stretch ratio and strength of the re-stretching to achieve the desired the polarizing plate.

With regard to claims 17-19, Sakamaki et al teaches that a luminous corrected Y transmittance of the polarizing plate is 43.3% which is above 42.4% and is more than 43% but not more than 44% when a standard C light source having luminous factor correction per 10 nm in a range from 400 nm to 700 nm is used. Sakamaki et al teaches that the polarization degree is 99.98%.

#### *Response to Arguments*

3. Applicant's arguments filed on December 29, 2005 have been fully considered but they are not persuasive.

4. In response to applicant's arguments which state that cited Binda reference teaches the re-stretching step is "as nearly as possible the same degree as in the initial stretching condition" which therefore does not suggest the second stretching step has a higher stretch ratio than the first stretching step, (please see page 5 of remark), the examiner respectfully disagrees for the reasons stated below. The stretching ratio is referred as the stretched dimension or length of the film as compared to its unstretched dimension ( $L_0$ ). If the first stretching condition allows the film to have a dimension that is three times of its original dimensional then the first stretching ratio is 3. Binda teaches that after the first stretching step the film is allowed to shrink to have perhaps a half of the stretched length, (please see column 2, lines 35-38), before the second stretching step is performed. At this point the dimension or the length of the film is of 1.5 times of the original strength, or  $1.5L_0$ . Now by applying the second stretching step at "as nearly as possible the same degree as in the initial stretching condition" the second stretching step will stretch the film to have **three** times of the length or dimensional of the film, namely to have a length of  $4.5L_0$ ,

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which means the second stretch will have a stretching ratio of 4.5 that is **greater than** the first stretching ratio. This reference therefore meets the limitations.

5. In response to applicant's arguments, which states that the cited Sakamaki reference discloses a polarization degree at 550 nm but it is unconcerned about polarization degrees at 440 nm and 610 nm, the examiner respectfully disagrees. Firstly, the polarizing plate inherently has certain degrees of polarization at other parts of the visible light spectrum. Secondly, Sakamaki reference teaches the polarizing plate has *exactly* the **same** polarization degree at one of wavelengths in the visible wavelength spectrum (i.e. 550nm) as the instant application, this implies the polarizing film having the same PVA film and same dichroic iodine dye as the polarizing plate of the instant application will have the similar degree of polarization as the instant application at different wavelengths of the visible spectrum.

#### ***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

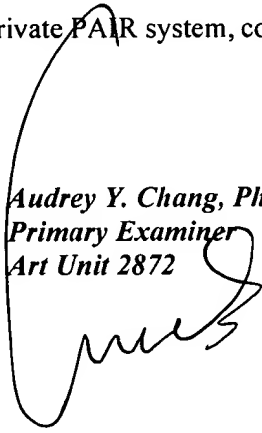
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Audrey Y. Chang whose telephone number is 571-272-2309. The examiner can normally be reached on Monday-Friday (8:00-4:30), alternative Mondays off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Audrey Y. Chang, Ph.D.*  
*Primary Examiner*  
*Art Unit 2872*



A. Chang, Ph.D.